

Message

**From:** McGrath, Jesse [mcgrath.jesse@epa.gov]  
**Sent:** 3/3/2017 7:56:43 PM  
**To:** Compher, Michael [compher.michael@epa.gov]; Hamilton, Scott [hamilton.scott@epa.gov]; Qazzaz, Bilal [qazzaz.bilal@epa.gov]  
**Subject:** RE: I have to finalize something for enforcement, here are the easy things.  
**Attachments:** r5missingChecksWithInvalidData.csv; invalidatedCharts.pdf

Everything will be on Sharepoint here:

<https://usepa.sharepoint.com/sites/R5/ARD/ATAB/AMAS/Shared%20Documents/Forms/AllItems.aspx?id=%2Fsites%2FR5%2FARD%2FATAB%2FAMAS%2FShared%20Documents%2Fozone%20check%20review&newTargetListUrl=%2Fsites%2FR5%2FARD%2FATAB%2FAMAS%2FShared%20Documents>

The attached file r5missingChecksWithInvalidData.csv list all time blocks where checks are greater than 21 days apart, and there is at least 1 record marked with a Null Data Code. It shows the dates of the two known checks in the begin and end date columns, and the number of days between them in the diff column.

The attached pdf is a first take on visualizing those blocks. Each page is an agency-year and each chart within a page shows a time series of a block from the other file. Records with Null Data Codes are marked in the circles along the lower axis, and the AQS description of those codes are in the legend.

This has highlighted another problem, where an agency doesn't submit a record for an hour, instead of submitting a record with a NULL value.

You can see an example of this on page 2 of the pdf. In the left chart there is a jump down just after March 15 where there are no hourly records, but also no Null Data Codes. The raw data showing that more clearly is below. I'll add something to detect that later today or early next week.

As a separate reporting issue, missing records and records with a NULL value are separate concepts that should not be mixed. Agencies should submit all missing data as a record with a NULL Sample Value and a Null Data Code, rather than not submitting anything. DVs and completeness are still calculated correctly.

Null Data Code	aqsidAlt	Date	Start Time	Sample Value	
	39-103-0004-Ozone-1	20140515	20:00	0.034	
	39-103-0004-Ozone-1	20140515	21:00	0.034	
	39-103-0004-Ozone-1	20140515	22:00	0.036	
	39-103-0004-Ozone-1	20140515	23:00	0.037	
	39-103-0004-Ozone-1	20140516	0:00	0.039	The row after this should
be for 20140516		1:00			but instead it jumps three days.
	39-103-0004-Ozone-1	20140519	0:00	0.015	
	39-103-0004-Ozone-1	20140519	1:00	0.026	
	39-103-0004-Ozone-1	20140519	2:00	0.027	

Thank you,  
Jesse

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**From:** Compher, Michael  
**Sent:** Friday, March 03, 2017 12:15 PM  
**To:** McGrath, Jesse <mcgrath.jesse@epa.gov>; Hamilton, Scott <hamilton.scott@epa.gov>; Qazzaz, Bilal

<qazzaz.bilal@epa.gov>

**Subject:** RE: I have to finalize something for enforcement, here are the easy things.

Jesse,

Thanks for beginning to work on this. To summarize our meeting yesterday, I asked that you assess the AQS data to determine (1) by reporting organization, how many reported checks (counts) exceed 7% for each year (2013 to 2016), and (2) identify whether there is missing ambient data in time period between reported checks when number of elapsed days between reported checks is greater than 21 (or another # within that general timeframe).

I see that you've already done #1 (below). I'm looking forward to seeing the information summarized for #2.

Agency	year	pd.ObsOver7
Cleveland Air Pollution Control Agency	2016	1
Hamilton County Department Of Environmental Services	2013	5
Hamilton County Department Of Environmental Services	2014	1
Illinois Environmental Protection Agency	2016	1
Indiana Depart Of Environ Management/Office Of Air Quality	2013	26
Indiana Depart Of Environ Management/Office Of Air Quality	2014	13
Indiana Depart Of Environ Management/Office Of Air Quality	2015	1
Indiana Depart Of Environ Management/Office Of Air Quality	2016	1
Michigan Dept Of Environmental Quality-Air Quality Division	2013	1
Michigan Dept Of Environmental Quality-Air Quality Division	2015	4
Michigan Dept Of Environmental Quality-Air Quality Division	2016	4
Minnesota Pollution Control Agency, Division Of Air Quality	2013	15
Minnesota Pollution Control Agency, Division Of Air Quality	2014	10
Minnesota Pollution Control Agency, Division Of Air Quality	2015	18
Ohio EPA Central Office	2013	4
Ohio EPA, Central District Office	2016	1
Ohio EPA, Northeast District Office	2014	5
Ohio EPA, Northeast District Office	2016	1
Ohio EPA, Southeast District Office	2014	1
Ohio EPA, Southeast District Office	2015	6
Portsmouth City Health Dept Division Air Pollution Control	2014	1
USEPA - Clean Air Markets Division	2013	8
Wisconsin Dept Of Natural Resources, Air Monitoring Section	2015	1

Michael Compher  
Chief, Air Monitoring and Analysis Section  
Region 5 Air and Radiation Division  
U.S. Environmental Protection Agency  
Phone: 312-886-5745

-----Original Message-----

From: McGrath, Jesse

Sent: Thursday, March 02, 2017 4:01 PM

To: Compher, Michael <compher.michael@epa.gov>; Hamilton, Scott <hamilton.scott@epa.gov>; Qazzaz, Bilal

<[gazzaz.bilal@epa.gov](mailto:gazzaz.bilal@epa.gov)>

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I'll move these to Sharepoint tomorrow and add the agency to the invalid counts.

The gap test is half done.